If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.
The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.
Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

4.120.102.e NASA National Science Research Laboratory (NSRL) (Peer 27) Mode 24 Tests

Attachment

C-A-OPM Procedures in which this Attachment is used.		
4.120.102		

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approved: ***Signature on File***
Collider-Accelerator Department Chairman

Date

V. Castillo

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:_____ **Checksum:** _____

Division B Software Filename and Checksum: Title:_____ **Checksum:** _____

Initial testing complete:

Test Team Leader's Name (Print): _____ **Life Number:** _____

Test Team Leader's Name (Sign): _____ **Date:** _____/____/_____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ **Life Number:**_____

Test Team Leader's Name (Sign): _____ **Date:** _____/____/_____

Test results reviewed by:

Safety Section Head's Name (Print):_____ **Life Number:** _____

Safety Section Head's Name (Sign):_____ **Date:** _____/____/_____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print):_____ **Life Number:** _____

RSC Member's Name (Sign):_____ **Date:** _____/____/_____

1.1 Verify necessary conditions for No Access (NA), Mode 24 and the Critical Device Switch (CDS) set for NSRL operations and the effect of switching the Critical Device Switch to Booster and NSRL (B&N) operations.

Note:
Beam imminent alarm for Z1 is voice announcement warning and lights dimming in Z1.

	SET	**Critical Device** Switch for **NSRL** operations	
☐	**VERIFY**	Critical Device **Operation** switch is set for	**NSRL**
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**Peer 27** is in **Controlled Access**	**MODE 16**
	RESET	**Peer 27 gates:** BGE1, BGI1, BGI2, and BGE2 from **MCR**	
☐	**VERIFY**	**MCR** sees **Peer 27 gates:** ☐ BGE1, ☐ BGI1, ☐ BGI2, ☐ BGE2	**RESET**
	FORCE	**Sweep** of Zone **NSRL-Z1,** Zone **NSRL-Z2** and Zone **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1** ☐**,** Zone **NSRL-Z2** ☐ and Zone **NSRL-Z3** ☐	**SWEPT**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
	RECORD	**Duration [_____ secs]** of **Beam Imminent Alarm**	
☐	**VERIFY**	**Red No Access Light** at Gates: ☐ BGE1, ☐ BGI1, ☐ BGI2, ☐ BGE2 is	**ON**
	SET	**Critical Device** Switch for **B&N** operations	
☐	**VERIFY**	Critical Device **Operation** switch is set for	**B&N**
☐	**VERIFY**	Peer 27 **remains** in **NA**	**MODE 24**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**Peer 27** is in **Controlled Access**	**MODE 16**
	REMOVE	**Reset** from gate **BGE2**	
☐	**VERIFY**	**MCR** sees gate **BGE2** is	**NOT RESET**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Attempt** to place **Peer 27** in **No Access Mode**	**FAIL**
	RESET	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees gate **BGE2**	**RESET**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**Peer 27** is in **Controlled Access**	**MODE 16**

	REMOVE	**Sweep** from zone **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees zone **NSRL-Z1** is	**NOT SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Attempt** to place **Peer 27** in **No Access Mode**	**FAIL**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees zone **NSRL-Z1**	**SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**Peer 27** is in **Controlled Access**	**MODE 16**

☐ **Check for acceptance of Verify necessary conditions for Mode 24 and the Critical Device Switch set for NSRL operations and the effect of switching the Critical Device Switch to Booster and NSRL (B&N) operations.**

1.2 Verify Peer 27 response to opening a gate while in Mode 24 and the CDS is set for NSRL operations.

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
☐	**VERIFY**	**NSRL beamplug** enabled **before D6** is	**ENABLED**
	OPEN	Gate **BGE1**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐ and **Z3PCD** ☐	**DISABLED**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
	RESET	Gate **BGE1**	
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	OPEN	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐ and **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	**D6** is disabled **before NSRL beamplug** is	**DISABLED**

☐ **Check for acceptance of Verify Peer 27 response to opening a gate while in Mode 24 and the CDS is set for NSRL operations.**

1.3 Verify Peer 27 response to opening a gate while in Mode 24 and the CDS is set for B&N operations.

	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&N**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
☐	**VERIFY**	**NSRL beamplug** enabled **before D6** is	**ENABLED**
	OPEN	Gate **BGE1**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐ and **Z3PCD** ☐	**DISABLED**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
	RESET	Gate **BGE1**	
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	OPEN	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐ and **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	**D6** is disabled **before NSRL beamplug** is	**DISABLED**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**

☐ **Check for acceptance of Verify Peer 27 response to opening a gate while in Mode 24 and the CDS is set for B&N operations.**

1.4 Verify Entry gates are securely locked in Mode 24

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	Attempt to open gate **BGE1** with **#21Sweep /Reset (S/R) Key** and **Sim. Rel (SR)**	**FAIL**
☐	**VERIFY**	Attempt to open gate **BGE2** with **#23 S/R Key** and **SR**	**FAIL**

☐ **Check for acceptance of Verify Entry gates are securely locked in Mode 24**

1.5 Verify System Response to Pressing a Crash Button in Zone NSRL-Z1 in Mode 24

	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to **stop** sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PRESS	Zone **NSRL-Z1crash button, [Button #: _____]**	
☐	**VERIFY**	**Peer 27** goes to	**MODE 2**
☐	**VERIFY**	Zone **NSRL-Z1 Sweep** is	**LOST**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐,** and **Z3PCD ☐,**	**DISABLED**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1**	**SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
	PULL	Any **Zone NSRL-Z1 crash button [Button #: _____]** when **alarm starts sounding**	
☐	**VERIFY**	**Beam Imminent alarm**	**STOPS**
☐	**VERIFY**	**Peer 27** has moved to	**MODE 2**
☐	**VERIFY**	**MCR** sees **Zone NSRL-Z1**	**NOT SWEPT**
	PLACE	**Peer 27** in **RA, Mode 8**	
☐	**VERIFY**	**Attempt** to go to **Mode 8**	**FAIL**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **RA, Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**

☐ **Check for acceptance of Verify System Response to Pulling a Crash Cord in NSRL-Z1 in Mode 24**

1.6 Verify System Response to Pulling a Crash Cord in Zone NSRL-Z2 in Mode 24 and the CDS is set for NSRL operations.

	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **NA**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to **stop** sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PULL	Zone **NSRL-Z2 crash cord [System #: _____]**	
☐	**VERIFY**	**Peer 27** goes to	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐,** and **Z3PCD ☐**	**DISABLED**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z2**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
	PULL	Any **Zone NSRL-Z2 crash cord [System #: _____]** when **alarm starts sounding**	
☐	**VERIFY**	**Beam Imminent alarm**	**STOPS**
☐	**VERIFY**	**Peer 27** has moved to	**MODE 2**
☐	**VERIFY**	**MCR** sees **Zone NSRL-Z2**	**NOT SWEPT**
	PLACE	**Peer 27** in **Mode 8**	
☐	**VERIFY**	**Attempt** to go to **Mode 8**	**FAIL**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **RA, Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**

☐ **Check for acceptance of Verify System Response to Pulling a Crash Cord in NSRL-Z2 in Mode 24 and the CDS is set for NSRL operations.**

1.7 Verify System Response to Pulling a Crash Cord in Zone NSRL-Z2 in Mode 24 and the CDS is set for B&N operations.

	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&N**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **NA**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to **stop** sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PULL	Zone **NSRL-Z2 crash cord [System #: _____]**	
☐	**VERIFY**	**Peer 27** goes to	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐,** and **Z3PCD ☐**	**DISABLED**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z2**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
	PULL	Any **Zone NSRL-Z2 crash cord [System #: _____]** when **alarm starts sounding**	
☐	**VERIFY**	**Beam Imminent alarm**	**STOPS**
☐	**VERIFY**	**Peer 27** has moved to	**MODE 2**
☐	**VERIFY**	**MCR** sees **Zone NSRL-Z2**	**NOT SWEPT**
	PLACE	**Peer 27** in **Mode 8**	
☐	**VERIFY**	**Attempt** to go to **Mode 8**	**FAIL**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **RA, Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**

☐ **Check for acceptance of Verify System Response to Pulling a Crash Cord in NSRL-Z2 in Mode 24 and the CDS is set for B&N operations.**

1.8 Verify System Response to Pulling a Crash Cord in Zone NSRL-Z3 in Mode 24

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **NA**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to **stop** sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	PULL	Zone **NSRL-Z3 crash cord [System #: _____]**	
☐	**VERIFY**	**Peer 27** goes to	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z3**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, and **Z3PCD** ☐	**DISABLED**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z3**	**SWEPT**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
	PULL	Any **Zone NSRL-Z3 crash cord [System #: _____]** when **alarm starts sounding**	
☐	**VERIFY**	**Beam Imminent alarm**	**STOPS**
☐	**VERIFY**	**Peer 27** has moved to	**MODE 2**
☐	**VERIFY**	**MCR** sees **Zone NSRL-Z3**	**NOT SWEPT**
	PLACE	**Peer 27** in **Mode 8**	
☐	**VERIFY**	**Attempt** to go to **Mode 8**	**FAIL**
	REARM	**Crash device**	
	RESET	**Crash at MCR**	
☐	**VERIFY**	**Crash is**	**RESET**
	PLACE	**Peer 27** in **RA, Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**

☐ **Check for acceptance of Verify System Response to Pulling a Crash Cord in NSRL-Z3 in Mode 24**

1.9 Test Div A and Div B loss of Block I/O in NSRL-Z1 in Mode 24

	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1** ☐, Zone **NSRL-Z2** ☐ and Zone **NSRL-Z3** ☐	**SWEPT**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	FORCE	Div **A NG Block I/O** in **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees **Div A Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div A: Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div A: NSRL-Z1**	**NOT SWEPT**
	FORCE	Div **B NG Block I/O** in **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees **Div B Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div B: Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div B: NSRL-Z1**	**NOT SWEPT**
	RESTORE	**Div A** and **Div B Block I/O** in **NSRL-Z1**	
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1** ☐, Zone **NSRL-Z2** ☐ and Zone **NSRL-Z3** ☐	**SWEPT**

☐ **Check for acceptance of Test Div A and Div B loss of Block I/O in NSRL-Z1 in Mode 24**

1.10 Test Div A and Div B loss of Block I/O in NSRL-Z2 in Mode 24

	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	FORCE	Div **A NG Block I/O** in **NSRL-Z2**	
☐	**VERIFY**	**MCR** sees **Div A Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div A: Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div A: NSRL-Z1** ☐, **NSRL-Z2** ☐	**NOT SWEPT**
	FORCE	Div **B NG Block I/O** in **NSRL-Z2**	

☐	**VERIFY**	**MCR** sees **Div B Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div B: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div B: NSRL-Z1 ☐, NSRL-Z2 ☐**	**NOT SWEPT**
	RESTORE	**Div A** and **Div B Block I/O** in **NSRL-Z2**	
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1** and Zone **NSRL-Z2**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2 ☐,** Zone **NSRL-Z2 ☐** and Zone **NSRL-Z3 ☐**	**SWEPT**

☐ **Check for acceptance of Test Div A and Div B loss of Block I/O in NSRL-Z2 in Mode 24**

1.11 Test Div A and Div B loss of Block I/O in NSRL-Z3 in Mode 24

	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	FORCE	Div **A NG Block I/O** in **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees **Div A Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div A: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div A: NSRL-Z2 ☐, NSRL-Z3 ☐**	**NOT SWEPT**
	FORCE	Div **B NG Block I/O** in **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees **Div B Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div B: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div B: NSRL-Z2 ☐, NSRL-Z3 ☐**	**NOT SWEPT**
	RESTORE	**Div A** and **Div B Block I/O** in **NSRL-Z3**	
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z2,** Zone **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z3 ☐,** Zone **NSRL-Z3 ☐** and Zone **NSRL-Z3 ☐**	**SWEPT**

☐ **Check for acceptance of Test Div A and Div B loss of Block I/O in NSRL-Z3 in Mode 24**

1.12 Test Div A and Div B loss of Block I/O in NSRL-Z3 in Mode 24 and the CDS is set for B&N operations.

	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&N**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	FORCE	Div **A NG Block I/O** in **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees **Div A Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div A: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div A: NSRL-Z2 ☐, NSRL-Z3 ☐**	**NOT SWEPT**
	FORCE	Div **B NG Block I/O** in **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees **Div B Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div B: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Div B: NSRL-Z2 ☐, NSRL-Z3 ☐**	**NOT SWEPT**
	RESTORE	**Div A** and **Div B Block I/O** in **NSRL-Z3**	
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z2,** Zone **NSRL-Z3**	
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z3 ☐,** Zone **NSRL-Z3 ☐** and Zone **NSRL-Z3 ☐**	**SWEPT**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**

☐ **Check for acceptance of Test Div A and Div B loss of Block I/O in NSRL-Z3 in Mode 24 and the CDS is set for B&N operations.**

1.13 Test Div A and Div B loss of Critical Device RI/O comm to block I/O in Mode 24

	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**Peer 27** is in **NA**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	FORCE	Div **A NG Crit Dev RI/O comm to Block I/O**	
☐	**VERIFY**	**MCR** sees **Div A Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div A: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**DISABLED**
	FORCE	Div **B NG Crit Dev RI/O comm to Block I/O**	

☐	**VERIFY**	**MCR** sees **Div B Peer 27 in SA**	**MODE 2**
☐	**VERIFY**	**MCR** sees **Div B: Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**DISABLED**
	RESTORE	Div **A** and Div **B Crit Dev RI/O comm to Block I/O**	
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**

☐ **Check for acceptance of Test Div A and Div B loss of Critical Device RI/O comm to block I/O in Mode 24**

1.14 Chipmunk Tests in Mode 24

	ATTACH	**Test Box** to **Chipmunk** prior to test	
	RESET	Chipmunk **alarms**	
☐	**VERIFY**	**MCR** sees **Chipmunk** alarms	**RESET**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	FOLLOW	**Tests in Tables 1, 2, 3 and 4** below	

Chipmunk	Press & verify div A trip	Verify Peer 27 stays in mode 24	Verify Z1PCD Disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset Div A trip	Verify div A trip reset	Goto table 6 for div B trip
NMO 130	☐	☐	☐	☐	☐		☐	
NMO 131	☐	☐	☐	☐	☐		☐	
NMO 132	☐	☐	☐	☐	☐		☐	
NMO 133	☐	☐	**N/A**	**N/A**	**N/A**		☐	
NMO 134	☐	☐	**N/A**	**N/A**	**N/A**		☐	

Table 1 – Division A trip test in Mode 24

Chipmunk	Press & verify div B trip	Verify Peer 27 stays in mode 24	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset Div B trip	Verify div A trip reset	Goto table 7 for div A fails
NMO 130	☐	☐	☐	☐	☐		☐	
NMO 131	☐	☐	☐	☐	☐		☐	
NMO 132	☐	☐	☐	☐	☐		☐	
NMO 133	☐	☐	**N/A**	**N/A**	**N/A**		☐	
NMO 134	☐	☐	**N/A**	**N/A**	**N/A**		☐	

Table 2 – Division B Trip test in Mode 24

Chipmunk	Press & verify div A fails	Verify Peer 27 goes to mode 2	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset & verify Div A trip	Go to & verify Mode 24	Verify PCDs Z1, Z2 & Z3 enabled	Goto table 8 for div B fails
NMO 130	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 131	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 132	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 133	☐	N/A	N/A	N/A	N/A	☐	N/A	N/A	
NMO 134	☐	N/A	N/A	N/A	N/A	☐	N/A	N/A	

Table 3 – Division A Fails test in Mode 24

Chipmunk	Press & verify div A fails	Verify Peer 27 goes to mode 2	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset & verify Div A trip	Go to & verify Mode 24	Verify PCDs Z1, Z2 & Z3 enabled	Goto end of test instrns below
NMO 130	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 131	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 132	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 133	☐	N/A	N/A	N/A	N/A	☐	N/A	N/A	
NMO 134	☐	N/A	N/A	N/A	N/A	☐	N/A	N/A	

Table 4 – Division B Fails test in Mode 24

End of Test Instructions:

	DETACH	**Test Box** from **Chipmunk** after test	
	CONNECT	**Cable to Chipmunk**	
	RESET	Chipmunk **faults** at **MCR**	
☐	**VERIFY**	**MCR** sees **Chipmunk**	**OK**
	ATTACH	**Test Box** to next **Chipmunk** and **go** to **start of test "ATTACH…"** or	
	END	**Chipmunk** test	

☐ **Check for acceptance of Chipmunk Tests in Mode 24**

1.15 Chipmunk Tests in Mode 24 and the CDS is set for B&N operations.

	ATTACH	**Test Box** to **Chipmunk** prior to test	
	RESET	Chipmunk **alarms**	
□	**VERIFY**	**MCR** sees **Chipmunk** alarms	**RESET**
	SET	**CDS** for **B&N** operations	
□	**VERIFY**	**CDS** is set for	**B&B**
	PLACE	**Peer 27** in **Mode 24**	
□	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
□	**VERIFY**	**MCR** sees **Z1PCD □, Z2PCD □, Z3PCD □, Z1RBCD □** and **Z2RBCD □**	**ENABLED**
	FOLLOW	**Tests in Tables 5, 6, 7 and 8** below	

Chipmunk	Press & verify div A trip	Verify Peer 27 stays in mode 24	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset Div A trip	Verify div A trip reset	Goto table 6 for div B trip
NMO 130	□	□	□	□	□		□	
NMO 131	□	□	□	□	□		□	

Table 5 – Division A trip test in Mode 24

Chipmunk	Press & verify div B trip	Verify Peer 27 stays in mode 24	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset Div B trip	Verify div A trip reset	Goto table 7 for div A fails
NMO 130	□	□	□	□	□		□	
NMO 131	□	□	□	□	□		□	

Table 6 – Division B Trip test in Mode 24

Chipmunk	Press & verify div A fails	Verify Peer 27 goes to mode 2	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset & verify Div A trip	Go to & verify Mode 24	Verify PCDs Z1, Z2 & Z3 enabled	Goto table 8 for div B fails
NMO 130	□	□	□	□	□	□	□	□	
NMO 131	□	□	□	□	□	□	□	□	

Table 7 – Division A Fails test in Mode 24

Chipmunk	Press & verify div A fails	Verify Peer 27 goes to mode 2	Verify Z1PCD disabled	Verify Z2PCD disabled	Verify Z3PCD disabled	Reset & verify Div A trip	Go to & verify Mode 24	Verify PCDs Z1, Z2 & Z3 enabled	Goto end of test instrns below
NMO 130	☐	☐	☐	☐	☐	☐	☐	☐	
NMO 131	☐	☐	☐	☐	☐	☐	☐	☐	

Table 8 – Division B Fails test in Mode 24

End of Test Instructions:

	DETACH	**Test Box** from **Chipmunk** after test	
	CONNECT	**Cable to Chipmunk**	
	RESET	Chipmunk **faults** at **MCR**	
☐	**VERIFY**	**MCR** sees **Chipmunk**	**OK**
	ATTACH	**Test Box** to next **Chipmunk** and **go** to **start of test "ATTACH…"** or	
	END	**Chipmunk** test	
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**

☐ **Check for acceptance of Chipmunk Tests in Mode 24**

1.16 Verify keys in local keytree at gate BGE1are securely captured with Peer 27 in Mode 24

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐, **Z3PCD** ☐, **Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	SCAN	Valid Personnel with Iris Scanner at gate BGE1	
☐	**VERIFY**	**Valid** Personnel is	**RECOGNIZED**
☐	**VERIFY**	**Attempt** to **release first NSRL** key in **Local** keytree at gate **BGE1** is	**UNSUCCESSFUL**

☐ **Check for acceptance of Verify keys in local keytree at gate BGE1are securely captured with Peer 27 in Mode 24**

1.17 Verify pulling any key from NSRL keytrees drops Peer 27 to Mode 2

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PULL	**Any** key from **NSRL Zone 1** keytree at **MCR**	
☐	**VERIFY**	**MCR** sees **Peer 27** go to **SA**	**MODE 2**
	REPLACE	Key in **NSRL Zone 1** keytree	
☐	**VERIFY**	**NSRL Zone 1** keytree is	**COMPLETE**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PULL	**Any** key from **NSRL Zone 2** keytree at **MCR**	
☐	**VERIFY**	**MCR** sees **Peer 27** go to **SA**	**MODE 2**
	REPLACE	Key in **NSRL Zone 2** keytree	
☐	**VERIFY**	**NSRL Zone 2** keytree is	**COMPLETE**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PULL	**Any** key from **NSRL Zone 3** keytree at **MCR**	
☐	**VERIFY**	**MCR** sees **Peer 27** go to **SA**	**MODE 2**
	REPLACE	Key in **NSRL Zone 3** keytree	
☐	**VERIFY**	**NSRL Zone 3** keytree is	**COMPLETE**

☐ **Check for acceptance of Verify pulling any key from NSRL keytrees drops Peer 27 to Mode 2**

1.18 Verify operation of NSRL Video Operations panel (BVOP)

	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&B**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	

☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD**	**DISABLED**
☐	**VERIFY**	**MCR** sees **Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	REMOVE	**EB0021** key from **NSRL Zone 1** keytree at **MCR**	
☐	**VERIFY**	**MCR** sees **gate BGE1**	**NOT RESET**
☐	**VERIFY**	**MCR** sees **Zone 1** sweep	**O.K.**
	PLACE	**EB0021** key in **Reset** position at **NSRL Video Operations panel**	
	RESET	**BGE1** from **NSRL Video Operations panel**	
☐	**VERIFY**	**MCR** sees **BGE1**	**RESET**
	CAPTURE	**EB0021** key in **Sweep** position at **NSRL Video Operations panel**	
☐	**VERIFY**	At NSRL Video Operations panel **EB0021** key is	**CAPTURED**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**

☐ **Check for acceptance of Verify operation of NSRL Video Operations panel**

1.19 Verify gates are locked after transition from NA to CA mode until the NSRL Beamplug is completely inserted

☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	STATION	**One personnel** at gate **BGE1** with **Test EB0021 key**	
	PLACE	**Peer 27** in **Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
☐	**VERIFY**	NSRL **Beamplug** is	**MIDDLE**
☐	**VERIFY**	Attempt to open **BGE1** with **SR** from **BVOP**	**FAIL**

☐	**VERIFY**	NSRL **Beamplug** is	**INSERTED**
☐	**VERIFY**	Attempt to open **BGE1** with **SR** from **BVOP**	**SUCCESSFUL**
	CLOSE	Gate **BGE1**	
	TRANSFER	**EB0021** key to **MCR Zone 1**keytree	
	RESET	**BGE1** from **MCR**	
☐	**VERIFY**	**MCR** sees **BGE1**	**RESET**
	CAPTURE	**EB0021** key in **Sweep** position at **MCR Zone 1** keytree	
☐	**VERIFY**	**MCR** sees **EB0021** key is	**CAPTURED**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐**, Z2PCD** ☐**, Z3PCD** ☐**, Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&N**
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐**, Z2PCD** ☐**, Z3PCD** ☐**, Z1RBCD** ☐ and **Z2RBCD** ☐	**ENABLED**
	STATION	**One personnel** at gate **BGE2** with **Test EB0022 key**	
	PLACE	**Peer 27** in **Mode 17**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 17**
☐	**VERIFY**	NSRL **Beamplug** is	**MIDDLE**
☐	**VERIFY**	Attempt to open **BGE1** with **SR** from MCR	**FAIL**
☐	**VERIFY**	NSRL **Beamplug** is	**INSERTED**
☐	**VERIFY**	Attempt to open **BGE1** with **SR** from **MCR**	**SUCCESSFUL**
	CLOSE	Gate **BGE1**	
	PLACE	**Peer 27** in **Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**

☐ **Check for acceptance of Verify gates are locked after transition from NA to CA mode until the NSRL Beamplug is completely inserted**

1.20 Verify the Beam Stops are inserted in response to opening a gate while Peer 27 is in Mode 24.

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	WITH-DRAW	**NSRL beamplug**	
☐	**VERIFY**	**NSRL beamplug** is	**OUT**
	OPEN	Gate **BGE1**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐** and **Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**NSRL beamplug** is	**IN**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
	RESET	Gate **BGE1**	
	SET	**CDS** for **B&N** operations	
☐	**VERIFY**	**CDS** is set for	**B&N**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	WITH-DRAW	**TTB beamstops**	
☐	**VERIFY**	**TTB beamstops** are	**OUT**
	OPEN	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐** and **Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**TTB beamstops** are	**IN**
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**

	WITH-DRAW	**LTB beamstops**	
☐	**VERIFY**	**LTB beamstops** are	**OUT**
	OPEN	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐** and **Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	**LTB beamstops** are	**IN**
	SET	**CDS** for **NSRL** operations	
☐	**VERIFY**	**CDS** is set for	**NSRL**

☐ **Check for acceptance of Verify the Beam Stops are inserted in response to opening a gate while Peer 27 is in Mode 24.**

1.21 Verify Power Supply D6 is turned off in response to opening a gate while Peer 27 is in Mode 24.

☐	**VERIFY**	**CDS** is set for	**NSRL**
	PLACE	**Peer 27** in **NA, Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	TURN ON	Power Supply **D6**	
☐	**VERIFY**	Power Supply **D6** is	**ON**
	OPEN	Gate **BGE1**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z1**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐** and **Z3PCD ☐**	**DISABLED**
☐	**VERIFY**	Power Supply **D6** is	**OFF**
	PLACE	**Peer 27** in **CA, Mode 16**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **CA**	**MODE 16**
	FORCE	**Sweep** of Zone **NSRL-Z1**	
	RESET	Gate **BGE1**	
	PLACE	**Peer 27** in **Mode 24**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **No Access**	**MODE 24**
	WAIT	For **Beam Imminent Alarm** to stop sounding	
☐	**VERIFY**	**MCR** sees **Z1PCD ☐, Z2PCD ☐, Z3PCD ☐, Z1RBCD ☐** and **Z2RBCD ☐**	**ENABLED**
	TURN ON	Power Supply **D6**	
☐	**VERIFY**	Power Supply **D6** is	**ON**

	OPEN	Gate **BGE2**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **Safe Access (SA)**	**MODE 2**
☐	**VERIFY**	**MCR** sees Zone **NSRL-Z2**	**NOT SWEPT**
☐	**VERIFY**	**MCR** sees **Z1PCD** ☐, **Z2PCD** ☐ and **Z3PCD** ☐	**DISABLED**
☐	**VERIFY**	Power Supply **D6** is	**OFF**
	PLACE	**Peer 27** in **Mode 8**	
☐	**VERIFY**	**MCR** sees **Peer 27** in **RA**	**MODE 8**

☐ **Check for acceptance of Verify Power Supply D6 is turned off in response to opening a gate while Peer 27 is in Mode 24.**

END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: _____

Date: _____/____/_____

TTL: Sign for completion of final testing: _____

Date: _____/_____/_____